Remarks/Arguments:

The above Amendments and these Remarks are in reply to the Office Action mailed February 23, 2005.

The Examiner has apparently not signed off an Information Disclosure Statement dated June 12 2003. The Attorney for the Applicant requests that the Examiner review this Information Disclosure Statement. A copy of this Information Disclosure Statement is enclosed for the Examiner's convenience.

Claims 1-41 were pending in the Application prior to the outstanding Office Action. In the Office Action, the Examiner rejected claims 1-41.

Claim 37 has been objected to. Claim 37 has been rewritten to be dependent upon claim 35 and, for that reason, claim 37 is no longer believed to have a dependency problem.

Claims 31-33 are rejected for including the phrase "or the like" which renders the claims indefinite. The Attorney for the Applicant cannot find the phrase "or the like" in claims 31-33.

Claims 1-41 are rejected under 35 U.S.C 102(e) as being anticipated by Saether et al., U.S. Patent 6,405,219. Saether describes a system for managing the replication and version synchronization of updates to a set of stored files on geographically distributed content servers.

In Saether, new or changed source files for content servers are created at a number of source servers. A primary global server stores representations of the source servers current version of the set of the updated source files. The primary global server also stores configuration files indicating the particular files in the directory structure and hardware constraints for each content server that is locally coupled to the primary global server and each secondary global server. The primary global server generates a version delivery list for each secondary global server that indicates a particular updated version for each local content server. The version delivery list also includes the file directory structure and the hardware constraints of each of the local content servers. The primary global server also generates a version change container for each secondary global server based upon its path and the difference between the updated version of the set of source files stored a version file tree repository on the primary global server and the current version of the set of source files stored on another version of file tree repository on each of the secondary global servers.

Claim 1 reads as follows:

1.   A method for replicating data from a master server to a slave server over a network, the method comprising the steps of:
        sending a packet of information from the master server to the slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data;
        allowing the slave server to determine whether the data on the slave server has been updated to correspond to the version number contained in the packet; and
        requesting a delta be sent from the master server to the slave server if the data on the slave server does not correspond to the version number contained in the packet, the delta containing information needed to update the slave server.

As claimed in claim 1, a packet of information including a <u>version number</u> is sent from a master server to a slave server. The slave server determines whether the data on the slave server has been updated to respond to the version number contained in the packet. <u>If the data of the slave server doesn't correspond to the version number contained in the packet, a delta containing information to be updated to the slave server is requested by the slave server to sent from the master server</u>.

Such a system is not shown, suggested or given a motivation for in the Saether reference. As described in column 5, lines 1-4 of Saether, at a determined interval the version delivery lists and the version change container are distributed from a primary global server to each secondary global server. The secondary global server of Saether does not receive a packet of information including a version number and then request that a delta be sent from the master server to the slave server <u>if the data on the slave server doesn't correspond to the version number</u> contained in the packet as claimed in claim 1.

One advantage of system of claim 1 is that it can reduce the amount of traffic sent over the network since the network does not need to send the delta unless the data at the slave server doesn't correspond to the version number contained in the packet.

For these reasons, claim 1 is believed to be allowable. Claims 2-4 are dependent upon claim 1 and, for this reason, and because of the additional limitations of these claims, these claims are believed to be allowable.

Claim 5 reads as follows:

5.   A method for replicating data from a master server to a slave server over a network, the method comprising the steps of:

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sending a version number from the master server to the slave server, the version number relating to the present state of the data stored on the master server;

allowing the slave server to determine whether the slave server has been updated to reflect the present state of the data corresponding to the version number sent from the master server; and

requesting a delta be sent from the master server to the slave server if the slave server does not correspond to the version number sent by the master, the delta containing information needed to update the slave server.

Claim 5 includes sending a version number from a message server to a slave server then at the slave server determining whether the slave server is updated corresponding to the version number and, if not, requesting the delta be sent from the master server to the slave server. As discussed above, Saether does not show, suggest or give a motivation for such steps. In Saether, the delivery list and version change containers are distributed at the same time.

For the above discussed reason, claim 5 is believed to be allowable. Claims 6-13 are dependent upon claim 5 and for that reason and because of the additional limitations of these claims, these dependent claims are believed to be allowable.

Claim 14 reads as follows:

14.   A method for replicating data over a network including a master server and at least one slave server, the method comprising the steps of:

sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a current version number for the present state of the data, the information further relating to previous changes in the data and a version number for each previous change;

allowing each slave server to determine whether the slave server has been updated to correspond to the current version number;

allowing each slave server to commit the information if the slave server has not missed a previous change; and

allowing each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information.

Claim 14 includes sending an information packet including the current version number for the present state of the data as well as the information further relating to previous changes in the data and version numbers for each previous change. The slave server checks to see whether to see if it has missed a previous change and then, if so, requests that the previous change be sent from the master server to the slave server before the slave server commits the packet of

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information. Such limitations are not shown, suggested or given a motivation for in the Saether reference. As described above, Saether describes sending a delivery list and version change containers at the same time from a primary global server to a secondary global server.

For the above discussed reason, claim 14 is believed to be allowable. Claims 15-18 are dependent upon claim 14, and for that reason and because of additional limitations of these claims, these claims are believed to be allowable.

Claim 19 reads as follows:

19.   A method for replicating data over a network including a master server and at least one slave server, the method comprising the steps of:
sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a prior version number for the prior state and a new version number for the new state of the data, the information further relating to previous changes in the data and a previous version number for each previous change;
allowing each slave server to determine whether the data on the slave server corresponds to the prior version number contained in the packet;
allowing each slave server to commit the packet of information if the data on the slave server corresponds to the prior version number contained in the packet, the commit also updating the version of the slave server to the new version number; and
allowing each slave server not corresponding to the prior version number to request that a delta be sent from the master server containing the information necessary to update the slave to the prior version number before the slave server commits the packet of information.

Claim 19 includes a step of allowing each slave server not corresponding to the prior version number to request that a delta be sent from the master server containing the information necessary to update the slave server slave to the prior version number before the slave server commits the packet of information. Such a step is not shown, suggested or given a motivation for in the Saether reference. For this reason, claim 19 is believed to be allowable.

Claim 20 reads as follows:

20.   A method for replicating data over a network including a master server and at least one slave server, the method comprising the steps of:
sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a version number for the prior state and a version number for the new state of the data, the information further relating to previous changes in the data and a version number for each previous change;

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allowing each slave server to determine whether the data on the slave
server corresponds to the prior version number contained in the packet;
allowing each slave server to commit the packet of information if the data
on the slave server corresponds to the prior version number contained in the
packet, the commit also updating the version of the slave server to the new
version number; and
allowing each slave server not corresponding to the prior version number
to request that a delta be sent from the master server containing the information
necessary to update the slave to the new version number.

Claim 20 includes allowing each slave server not corresponding to the prior version
number to request that a delta be sent from the master server containing the information
necessary to update the slave to the new version number. Such a step is not shown, suggested or
given a motivation for in the Saether reference. For this reason, claim 20 is believed to be
allowable.

Claim 21 reads as follows:

21.   A method for replicating data from a master server to at least one slave
server over a network, the method comprising the steps of:
sending a packet of information from the master server to a slave server,
the information relating to a change in the data stored on the master server and
containing a version number for the present state of the data;
receiving the packet of information to a slave server;
allowing the slave server to determine whether the slave server has been
updated to correspond to the version number contained in the packet, and to
further determine whether the slave server can process the packet of information
if needed to update to correspond to the version number contained in the packet;
sending a signal from the slave server to the master server, the signal
indicating whether the slave server needs to be updated and whether the slave
server can process the update; and
sending a response signal from the master server to the slave server
indicating whether the slave server should commit to the information contained in
the packet; and
committing the packet of information to the slave server if so indicated by
the response signal.

Claim 21 includes allowing the slave server to determine whether the slave server has
been updated to correspond to the version number contained in the packet sent from the master
server to the slave server and further determine whether the slave server can process the packet
of information if needed to update to correspond to the version number contained in the packet.
Such a step is not shown, suggested or given a motivation for in the Saether reference.

For this reason, claim 21 is believed to be allowable. Claims 22-30 are dependent upon claim 21 and for that reason, and because of the additional limitations of these claims, these claims are believed to be allowable.

Claim 31 reads as follows:

31.   A method for replicating data over a network, the method comprising the steps of:

   (a) determining whether the replication should be accomplished in a one or two phase method;

   (b) sending replication information determined to he accomplished in a one phase method by:

   sending a packet of information from the master server to the slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data;

   receiving the packet of information to a slave server;

   allowing the slave server to determine whether the data on the slave server has been updated to correspond to the version number; and

   requesting a delta be sent from the master server to the slave server if the slave server does not correspond to the version number, the delta containing information needed to update the slave server;

   (c) sending replication information determined to he accomplished in a two phase method by:

   sending a packet of information from the master server to the slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data;

   allowing the slave server to determine whether the slave server has been updated to correspond to the version number, and to further determine whether the slave server can process the packet of information;

   sending a signal from the slave server to the master server indicating whether the slave server needs to be updated and whether the slave server can process the packet of information;

   sending a response signal from the master server to the slave server indicating whether the slave server should commit to the packet of information; and

   committing the packet of information to the slave server if so indicated by the response signal.

Claim 31 includes allowing the slave server to determine whether the slave server has been updated to correspond to the version number and further determined whether the slave server can process the packet of information. Such a step is not shown, suggested or given a motivation for in the cited Saether reference.

Claim 31 also includes sending a signal from the slave server to the master server indicating whether the slave server needs to be updated and whether the slaver server can process the packet of information. Such a step in not shown, suggested or given a motivation for in the Saether reference.

Claim 31 further describes a response signal sent in response to the signal from the slave server. Such a response signal is not shown, suggested or given motivation for in the Saether reference.

For the above discussed reasons, claim 31 is believed to be allowable.

Claim 32 reads as follows:

32.   A method for replicating data over a network, the method comprising the steps of:
        (a) determining whether replication should be accomplished in a one or two phase method;
        (b) sending data to be replicated in a one phase method by:
        sending a version number for the current state of the data from a master server to a slave server;
        requesting a delta be sent from the master server to the slave server if the data on the slave server does not correspond to the version number; and
        (c) sending data to be replicated in a two phase method by:
        sending a packet of information from the master server to a slave server;
        determining whether the slave server can process the packet of information; and
        committing the packet of information to the slave server if the slave server can process the packet of information.

Claim 32 includes a step of requesting a delta be sent from the master server to the slave server if the data on the slave server does not correspond to the version number. As discussed above, such a step is not shown or suggested in the cited references. For this reason, claim 32 is believed to be allowable.

Claim 33 reads as follows:

33.   A method for replicating data from a master to a plurality of slaves on a network, the method comprising the steps of:
        (a) determining whether replication should be accomplished in a one or two phase method;
        (b) sending data to be replicated in a one phase method by:
        sending a version number for the current state of the data from the master to each slave; and
        requesting a delta be sent from the master to each slave containing data that does not correspond to the version number;

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(c) sending data to be replicated in a two phase method by:
sending a packet of information from the master to each slave; and
committing the packet of information to the slaves if each of the plurality
of slaves can process the packet of information.

Claim 33 includes determining whether replication should be accomplished in a one or two phase method. Saether does not describe any two phase method. In the two phase method of claim 33, if the two phase method is to be done, a packet of information sent from the master server to the slave server and the packet of information to the slave is committed if <u>each of the plurality of the slaves</u> can process the packet of information. Saether describes a user indicating whether the current version of the source file should be rolled back to a previous version, but this rollback is not shown as part of a two phase transaction as claimed in step (c) of claim 33. For these reasons, claim 33 is believed to be allowable.

Claim 34 reads as follows:

34.   A method for replicating data from a master to a plurality of slaves on a network using one and two phase methods, the method comprising the steps of:
(a) sending data to be replicated in a one phase method by sending a version number for the current state of the data from the master to each slave so that each slave may request a delta to be sent from the master to the slave to update the data on the slave; and
(b) sending data to be replicated in a two phase method by sending a packet of information from the master to each slave, the packet of information to be committed by each slave if every slave is able to commit the packet of information.

Claim 34 also includes a two phase method step in which a packet of information from the master server is sent to each slave, the packet of information to be committed by each slave <u>if every slave is able to commit the packet of information.</u> Such a step is not shown, suggested or given a motivation for in the Saether reference. For this reason claim 34 is believed to be allowable.

Claim 35 reads as follows:

35.   A method for replicating data on a clustered network using one and two phase methods, each network cluster containing a cluster master and at least one cluster slave, the method comprising the steps of:
(a) sending data to be replicated in a one phase method by sending a version number for the current state of the data from a first cluster master to all other cluster masters so the other cluster masters may each request a delta; and

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(b) sending data to be replicated in a two phase method by sending a
packet of information from the first cluster master to each other cluster master, the
packet of information to be committed by the other cluster masters if the other
cluster masters are able to commit the packet of information.

Claim 35 contains a two phase method step of sending a packet of information from the
first cluster master to each other cluster master, the packet of information to be committed by the
other cluster masters if the other cluster masters are able to commit the packet of information.
Such a two phase step method is not shown, suggested or given a motivation for in the Saether
reference.

For this reason claim 35 is believed to be allowable. Claims 36-37 are dependent upon
claim 35 and for that reason because of the additional limitations of these claims, these claims
are believed to be allowable.

Claims 38 reads as follows:

38.   A computer-readable medium, comprising:
(a) means for sending a packet of information from a master server to each
slave server on the network, the information relating to a change in the data stored
on the master server and containing a current version number for the present state
of the data, the information further relating to previous changes in the data and a
version number for each previous change;
(b) means for allowing each slave server to determine whether the slave
server has been updated to correspond to the current version number;
(c) means for allowing each slave server to commit the information if the
slave server has not missed a previous change; and
(d) means for allowing each slave server having missed a previous change
to request that previous change be sent from the master server to the slave server
before the slave server commits the packet of information.

Claim 38 includes means for allowing each slave server having missed a previous change
to request a previous change be sent from a master server to a slave server before the slave server
commits the packet of information. Such a step is not shown, suggested or given a motivation
for in the Saether reference.

Claim 39 reads as follows:

39.   A computer program product for execution by a server computer for
replicating data over a network, comprising:
(a) computer code for sending a packet of information from a master
server to each slave server on the network, the information relating to a change in
the data stored on the master server and containing a current version number for

the present state of the data, the information further relating to previous changes in the data and a version number for each previous change;

(b) computer code for allowing each slave server to determine whether the slave server has been updated to correspond to the current version number;

(c) computer code for allowing each slave server to commit the information if the slave server has not missed a previous change; and

(d) computer code for allowing each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information.

Claim 39 includes computer code for allowing each slave server having missed a previous change to request the previous change be sent from the master server to the slave server before the slave server commits a packet of information. Such computer code is not shown, suggested or given a motivation for in the Saether reference. For this reason, claim 39 is believed to be allowable.

Claim 40 reads as follows:

40.   A system for replicating data over a network, comprising:

(a) means for sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a current version number for the present state of the data, the information further relating to previous changes in the data and a version number for each previous change;

(b) means for allowing each slave server to determine whether the slave server has been updated to correspond to the current version number;

(c) means for allowing each slave server to commit the information if the slave server has not missed a previous change; and

(d) means for allowing each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information.

Claim 40 includes means for allowing each slave server having missed the previous change to request that the previous change be sent from the master server to the slaver server before the slave server commits the packet of information. Such a step is not shown, suggested or given a motivation for in the Saether reference. For this reason, claim 40 is believed to be allowable.

Claim 41 reads as follows:

41.   A computer system comprising: ·
        a processor;
        object code executed by said processor, said object code configured to:

      (a) send a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a current version number for the present state of the data, the information further relating to previous changes in the data and a version number for each previous change;

      (b) allow each slave server to determine whether the slave server has been updated to correspond to the current version number;

      (c) allow each slave server to commit the information if the slave server has not missed a previous change; and

      (d) allow each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information.
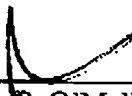
Claim 41 includes a processor executing an object code which allows each slave server having missed the previous change to request that the previous change be sent from the master server to the slave server before the slave server commits the packet of information. Such a step is not shown, suggested or given motivation for in the Seather reference. For this reason, claim 41 is believed to be allowable.

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and a Notice of Allowance is requested. The Examiner is respectfully requested to telephone the undersigned if they can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: _5/23/05_   By: _____

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